



S/N 09/584,566

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Leonard Forbes et al.

Examiner: Jerome Jackson, Jr.

Serial No.: 09/584,566

Group Art Unit: 2815

Filed: May 31, 2000

Docket: 303.691US1

Title: HORIZONTAL MEMORY DEVICES WITH VERTICAL GATES

**AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111**

Commissioner for Patents  
Washington, D.C. 20231

RECEIVED  
SEP - 9 2002  
TECHNOLOGY CENTER 2800

Applicant has reviewed the Office Action mailed on May 29, 2002. Please amend the above-identified patent application as follows.

**IN THE CLAIMS**

Please substitute the claim set in the appendix entitled Clean Version of Pending Claims for the previously pending claim set. The substitute claim set is intended to amendment of previously pending claims 1, 7, and 14. The specific amendments to individual claims are detailed in the following marked up set of claims.

1. (Amended) A memory cell, comprising:
  - a source region in a horizontal substrate;
  - a drain region in the horizontal substrate;
  - a channel region separating the source and the drain regions;
  - an edge-defined vertical floating gate [having sub lithographic dimensions] located above a portion of the channel region and separated from the channel region by a first thickness insulator material; [and]
    - at least one edge-defined vertical control gate [having sub lithographic dimensions] located above another portion of the channel region and separated therefrom by a second thickness insulator material, wherein the at least one vertical control gate is parallel to and opposing the vertical floating gate, and wherein the at least one vertical control gate is separated from the vertical floating gate by an intergate dielectric; and
    - wherein a floating gate capacitance associated with the edge-defined floating gate is smaller than a control gate capacitance associated with the at least one edge-defined vertical